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No. 24.



The Sugar Question—Bee-Food and Glands.

BY PROF. A. J. COOK.

I have been requested to reply to the following, which was sent to the editor of the American Bee Journal:

MR. EDITOR:—Prof. Cook tells us on page 179: "Thus the symbol of water is H_2O , and of sugar $C_{10}H_{10}O_5$. In both these cases we see that there is just twice as many atoms of oxygen as there are of hydrogen." I'm not much acquainted with chemistry, but it looks as if those figures showed more hydrogen than oxygen, for I suppose H stands for hydrogen. How is it? And is there a chemical formula that makes him say "there is twice as many" where common folks would say "there are twice as many?" Aside from these things there is much I can understand in the article, and Prof. Cook is doing good service to instruct us in such matters.

NON-CHEMICAL.

It is unfortunate that Chicago and California are so widely separated, as this makes it impossible for me to see the proof of my articles, else the above errors would not have occurred. I do not wonder that "Non-Chemical" is puzzled over the above. I was chagrined as I read the article, and have taken this first opportunity to correct the errors.

The formula for glucose is $C_6H_{12}O_6$. This is the true formula for the grape-sugar of commerce, the sugar of digestion, liver-sugar, and the honey-sugars. The formula for starch is $C_6H_{10}O_5$, and the same is true of glycogen or liver starch or animal starch as it is called. It will be seen that all of these substances contain hydrogen and oxygen in the same proportion that they are found in water, that is, two equivalents of hydrogen to one of oxygen. It is supposed that starch and glycogen are changed to sugar, the first, in digestion, the second, in the liver, by the adding of one equivalent of water.

There is no chemical formula that should make any one say there is twice as many. That is a pure case of false syntax that it seems will once in awhile get into the best of papers.

OTHER BEE-FOOD.

As every bee-keeper knows, bees not only require honey, or the sugars for food, but are equally dependent upon pollen. This forms the nitrogenous food of bees, and is without doubt required by all the bees, young as well as old, and all of the old bees, drones, workers and queens. It is probable that the drones and queens need not a little of this nitrogenous or albuminous food. The method of preparing this has been a matter of no little dispute. The pollen which is secured by the bees in the field is very different from the rich, albuminous food which we find in the cells with the larval bees, and in such large quantities in the queen-cell with the developing larval queen. It seems certain that the bees digest the pollen and form the rich food which is fed, certainly to all larvae,

and without any doubt to the queens and drones as well. It seems also evident that the lower head-glands secrete the ferment which affects this digestion of pollen.

True, Mr. Cheshire says in his book, that these lower head-glands secrete the very substance which is fed to the brood. I think I have proved that this is not the case. I think that the secretion from these lower head-glands mixes with the pollen, and both go together to the true stomach where the pollen is digested or changed into the royal jelly and other nitrogenous food preparing it for the bees. I fed bees honey which was mixt with pulverized charcoal, and with the microscope found this in the royal jelly. Thus, it would be seen certain that the bees regurgitated the food which is fed to the larvae. It would be impossible for this charcoal to pass through into the body cavity so as to mix with the blood, as charcoal is non-osmotic, and so cannot be absorbed, and also equally impossible for it to be taken out by the lower head-glands, which must certainly be the case if these lower head-glands prepare directly this nitrogenous food.

It would seem that the glands could hardly secrete all of the nitrogenous food, though it would seem possible that they might secrete enough ferment to digest the pollen and fit it to nourish the larvae and also the queen and drone. The fact as stated by Cheshire, that only the young workers have these lower head-glands strongly developed, makes it seem more than probable that only the younger bees prepare or digest this nitrogenous food, and thus they supply this food not only to the larval bees, but also to the drones, queen, and older workers.

OTHER GLANDS IN BEES.

Besides the lower head-glands there are the large upper head-glands, and also large glands in the thorax. These all connect with a tube which empties at the base of the tongue just where the nectar enters. It seems very evident that the secretion from these glands mixes with the nectar as it is taken into the honey-stomach. This is the ferment which changes nectar to honey, and makes honey such an admirable food. We can readily understand why these glands are so large. I once fed a colony of bees 19 pounds of sugar syrup. This all had to be transformed, and was in one night. We also know that colonies of bees will often gather under the most favorable circumstances a very large amount of nectar in a single day. It must take a large amount of this digestive ferment to perform transformation in such an extensive way, and thus these glands in the upper head and thorax are so largely developed. These matters are more fully described in my "Manual of the Apiary," and also in Cheshire's book.

There is also some fat in the pollens, or perhaps it would be more accurate to say oil. The oils and fats are the same, tho we usually speak of fat as the material formed in animals, and oil the like material formed by plants. I say they are the same. They differ somewhat, but undoubtedly form the same food element. We do not know what it is that digests the fat or oil of the pollen. We do know that it is a secretion from the pancreas that digests the fats and oils in our digestive economy. It is probable that in the lower head-glands there is also a ferment that does the same work for the bees. We also know that there is in the pancreatic secretion in our own bodies a substance which can and does digest the albuminoid of our food in case it is not done in the stomach by aid of the gastric juice.

Thus we see that in case both the oils and albuminoid of pollen is digested by the secretion of the lower head-glands, the analogy is very close to our own digestion, and we might

call these lower head-glands the "pancreas" of the bees. Indeed, we are learning more and more that there is a wonderful similarity in the organic function of all animals. And also that there is very much in common between animals and plants. To me this seems to more than hint that there is a great plan running through all life, and that there must be one great Planner. Is it not more than rational, then, as we study Nature, to have our faith firmly planted on the fact that there is one great God over all, and that His hand is plainly visible in all His works? That is the way I read Nature.

Los Angeles Co., Cal.



How to Cure Foul Brood Among Bees.

BY WM. M'EVROY.

Official Foul Brood Inspector for Ontario, Canada.

This disease has destroyed hundreds of apiaries at all times, in almost every land where bees have been kept, and it is to-day making its deadly march unchecked through the bee-yards of the world.

For 17 years I have warned the bee-keepers to keep all dead and putrid matter out of their colonies, so as not to cause foul brood, and while I have been warning and holding up Death's head and the cross-bones, the professional guessers, who were not practical bee-keepers, have been encouraging the wholesale spread of the disease by saying that rotten brood in hives of bees would not cause foul brood. Such teaching as that has caused thousands of bee-keepers to be very careless, and when the disease has broken out in their bee-yards, it was left to run its course to the ruin of their apiaries, and all others in the same localities. It is only the very few among many thousands of bee-keepers that have succeeded in curing their apiaries of foul brood after it got a good start in their bee-yards, and the owners left to themselves to manage the curing.

I will now give my methods of curing foul brood, which cannot fail when followed exactly as I order.

In the honey season, when the bees are gathering honey freely, remove the combs, and shake the bees back into their own hives in the evening; give comb foundation starters, and let them build combs for four days. In the evening of the fourth day, remove the comb, and give foundation to work out, and then the cure will be complete. Fill an empty two-story hive with the combs of foul brood that have been removed from two or more diseased colonies, close them up for two days, and shade them from the sun; after that open the entrance, and when most of the brood is hatcht, remove those combs, and give the bees starters of foundation in a single hive, and let them build combs for four days. Then in the evening of the fourth day, take out those new combs, and give them foundation to work out.

Let it be remembered that all of these operations should be done in the evening, so that the bees will become settled down nicely before morning.

Before extracting from the diseased combs, all the combs that were not sealed *must be cut out of the frame*, or some of the decayed brood will be thrown out with the honey. Then after cutting out the unsealed comb, uncup the sealed honey, extract it, and bring it to a boil.

All the foul combs, and the new combs that were built in the four days, must be made into wax, and the dross from the wax extractor, *must be buried*, because what runs with the wax would not be heated enough to kill the spores, and if it was thrown out where the bees could get at it, it would start the disease again.

When the diseased brood that was placed in the two-story hive is hatcht and the bees are give full sheets of foundation, then they should at once be given a queen-cell ready to hatch out, or a young queen; then everything will be all right.

The empty hives need no boiling, scalding, or disinfecting in any way, and are perfectly safe to use, no matter how bad the disease may have been in them; and I have always got the curing done in the same hives. But as the frames get more or less daubed with the diseased honey when the combs are cut out of them, I always order the frames burned as soon as the combs are cut out, because it doesn't pay to waste valuable time fussing and cleaning old frames, when new, nice ones are so cheap.

Where an apiary is diseased so badly that the colonies have become weak, then all the combs, both in and out of the hives, should be made into wax at once, and all the colonies doubled up at the same time, as it won't pay any person to waste time with weak colonies.

In some bee-yards I have put three and four colonies in one, to get fair-sized colonies to start on.

When the curing is to be done before or after the honey season, the greatest caution is to be used so as not to start robbing. The curing can be done just as well before as after the honey season by feeding plenty of sugar syrup in the evenings, so the bees will work out the starters of foundation, and store the diseased honey in them, that they took from the old, diseased combs; and when the new combs are removed the fourth evening, and the foundation given, the feeding must be continued to get foundation workt out and filled with plenty of good stores for winter.

When I find apiaries of foul brood at the close of the honey season, I get the queens caged in all the weakest colonies for about ten days, so that no brood can be started to become foul. I then get the owners to take the brood out of the strong colonies, and tier it up on the weak colonies with the caged queens. Then give the colonies starters as soon as the combs are removed, and feed sugar syrup in the *evenings* for four days; then remove the starters for foundation. Then at the end of ten days get all the combs taken from the weak colonies that have the caged queens, and shake the bees into a single hive, give starters of foundation, let the queens out of the cages, and feed sugar syrup in the *evenings*, and remove the new combs the fourth evening for full sheets of foundation, and continue the feeding until all is in good condition. The colonies that were weak when the brood of other colonies was tiered up on them, will be very strong from the quantity of bees hatcht out during the ten days.

I have to use considerable judgment in curing many foul-broody apiaries, so as to make the cure as profitable as possible, and have every colony a good, strong one when the season closes.

It is a very easy thing for one to cure a foul-broody apiary, and soon put it in good order, no matter how bad it was when I started to fix it up in good shape to cure it. But I have found it a very hard thing to handle all sorts of men so that they would cure, and do as I ordered them.

When a few colonies in an apiary are found with foul brood at the close of the season, the owner can very easily fix them up all right by removing the combs in an evening in October, when the queens *have done laying*, and giving sealed combs from *sound colonies*. If the owner has no sealed combs, he must feed until the bees in the sound colonies seal them for that purpose, and then when given to the foul colony the bees won't have any place to store the foul honey they took from the diseased combs, and then they will have to keep it until they consume it; and with no place to start brood, the queen stopt laying, and cold weather coming on, the bees will have gotten rid of the diseased honey long before brood is started again. Every bee-keeper should have, every fall, plenty of combs sealed over like the best of section honey. I have hundreds of them every fall.

I know of many failures in Ontario where the drug system has been tried, and I have many private letters from several localities in the United States where it has been a complete failure. I never knew one cure made by the drug system, and why any man should speak of it as a cure when it is always a failure, is something I can't understand.

I will warn all men not to waste their time in tinkering with any kind of drugs in a bee-yard; the best place for such drugs would be in the sea—only it might be a sorry time for the fishes.

The D. A. Jones' starvation plan will cure every time, but it is too hard on the bees, and completely unfits them for comb-building for a time, by making the bees very thin, lean and poor; and the starving sometimes almost ruins some of the queens for life.

Ontario, Canada.



The Prevention of Swarming.

BY W. P. FAYLOR.

There seems to be a good deal of difference in the traits and habits of bees of different apiaries, and in no respect is this more true than in regard to swarming. I had 30 colonies of bees last summer. Part of those were run for extracted honey and part for comb honey. I did not have a single swarm by Nature's method last year, while a neighbor's bees, but four miles distant, swarmed themselves to death.

In order to produce a non-swarming race of bees it is necessary first of all to practice the artificial method of increase. Where bees are not allowed to swarm for a few generations, they seem to lose the swarming fever, but where they are permitted to have their own way, year after year, each colony will usually swarm three or four times in a single season. Dr. C. C. Miller has allowed his bees to swarm for years, I believe, while the Dadants have practiced the artificial method

of increase. Now, what has been the result? We read of the Dadant bees seldom casting a swarm, while our Dr. Miller's swarm right along with the same environment and circumstances. The large, roomy hive is one factor in reducing the swarming mania, but it is not the chief one.

I usually make my increase from colonies that are run for extracted honey, by placing bee-zinc on top of the lower story, and confining the queen below and placing most of the brood and young larvae in the upper stories. The bees, finding no queen in these upper stories where the chief amount of brood and stores are, will usually build a few queen-cells and rear the very best of queens in this way. It is best to destroy all the queen-cells but one or two of the largest. A few days after the best queen-cell is capt, I lift off the upper story, bees and all, and place this story on a new bottom stand for the beginning of a new colony. By having on hand plenty of empty brood-combs at the beginning of the season, I can take one good, strong colony and increase to eight or ten good colonies in a single season.

With colonies that I wish to run for comb honey I practice the following method: My 8-frame hives are 12 inches wide, inside measure, and this allows for $1\frac{1}{2}$ inch spacing of frames during most of the year, but just at the dawn of the honey harvest I take out the combs and trim down the upper bulges, placing the combs that are fullest of brood and eggs on the outside, and those with honey and little brood, with one additional empty comb, on the inside of the chamber. During the honey-flow, you see, there are nine frames in the brood-chamber, making close spacing of brood-frames, so that the bees will have but little bulging room to store honey in the brood-chamber, and will have to go into the upper story among the sections to find the bulging room.

The next thing I do, I raise the brood-chamber about $\frac{1}{2}$ of an inch from the bottom-board, so as to let the cool air circulate through under the brood-chamber. A little piece of common lath placed under each corner of the hive will answer this purpose.

Some 12 years ago I had a very strong colony of bees. They were working grudgingly in the sections above, and were hanging out so as to cover the front and part of the sides of the hive. I had made this colony extra-strong by giving early additional brood. I wanted it to cast one good swarm so as to get some extra queen-cells. They had a nice lot of queen-cells started, and while they were getting ready to swarm I thought they might be induced to go up into the sections by raising the brood-chamber from the bottom-board. I put a little block under each corner of the hive, raising it about a half inch from the bottom-board; and what was my surprise to see these outside bees go into the upper story and crowd the sections. I supposed that the colony would swarm all the same in a few days, but it did not. I waited about a week and no swarm came off. Then I made an examination and found that the bees had destroyed every queen-larva and most of the queen-cells. Since then, when I have not wanted any swarming (and I now do not) I always raise the brood-chamber from the bottom-board so as to let the cool air circulate freely through the brood-chamber. This alone will prevent nine colonies out of every ten from swarming. It has prevented a hundred per cent. with me from swarming.

About once a year, for a number of years, I have called the attention of the readers of the Bee Journal to this point, and all that have tried raising the brood-chamber from the bottom-board have spoken of it as having done much to prevent swarming, and also has hurried the bees into the sections.

I am now satisfied that the natural cause of swarming is overcrowding some apartment of the queen's chamber with bees, brood, eggs, and heat. This can be demonstrated by using the 5-banded bees. I have sent north, south, east and west for these yellow beauties, for the last ten years, and I have the first queen yet to receive of the 5-banded variety that can produce eggs enough to give a colony of bees the swarming mania. The reason is that there are always empty cells, and no part of the brood-chamber is ever crowded.

Franklin Co., Iowa.



Selling Extracted Honey—Valuable Secrets.

BY CHALON FOWLS.

When I first began producing extracted honey, 15 or 16 years ago, I could not sell 100 pounds a year in my home market; now it takes from $1\frac{1}{2}$ to 2 tons of honey a year to supply my home market, and my trade is constantly increasing. My success in building up a home market is due, I think, to my methods, which are as follows:

First, the keynote of success in selling honey is to have a

first-class article to sell. As nearly all the honey produced in my locality is gathered from basswood and clover, it follows that I shall have the finest flavored and whitest honey in the market, if only the most cleanly methods are employed from the time the nectar is gathered until it reaches the market, just as a like result is obtained by the cleanest and most improved methods in the gathering and handling of maple sap. An examination of the bee under a microscope shows that it is one of the most cleanly as well as the most beautiful of insects, which insures cleanliness in the gathering process (I'm afraid the maple-sap gatherers would hardly bear comparison here). When the bee gets home with its load it must deposit it in a clean receptacle; old combs will not do, neither must the queen be allowed access to the surplus combs, as eggs, larvae, and pollen result in dirty combs; therefore, the queen is confined in the brood-chamber by means of perforated zinc.

The honey is not taken from the hive and extracted until it is sealed up just like section honey. It is then extracted, and stored in nice tin cans holding about 75 pounds. It will all candy solid, and is liquefied only as wanted for market. When I want to put up some for market, I put one of the cans in a larger can, supported by a suitable frame, so as to leave room under and all around, to be filled with water. The whole thing is kept hot several hours on the stove (a gasoline-stove is the best because slower); but I do not want the water to boil at any time in the outside can. After it is perfectly liquefied, it is put into my filling can, which is provided with a gate. Then I am ready to fill small packages for market.

I use only flint-glass pint Mason jars and third-pint jelly-tumblers for the grocery trade. I never use the green glass when I can get the flint, as the honey does not show up nearly as well. Grocers are requested to place the honey in front somewhere, or on the counters, where the light will strike through it. When a customer sees it shimmering in the sun, as clear as crystal, he is attracted by its beauty, and will buy. I want no showy-colored labels on my honey. I leave that for the glucose-mixers. They want something to plaster over their vile stuff to hide it, while I want to show my honey, as it looks finer to a honey-lover than the finest work of art on a label. Lithographs are so common nowadays that people take little notice of them; but any choice article of food, put up in clean and attractive packages, always commands attention; therefore, I use only a small white label, 1x2 inches, giving my name and address, and the words, "Pure Honey." We might get a pointer here from the druggists, who are apt to display clear and sparkling liquids in the window.

I make a tour of the principal towns in my county every two months, or oftener, according to the demands of the trade; and if any of the stock left is beginning to candy, or has become unsightly in any way, it is replaced with fresh goods free of charge. However, this very seldom happens—almost never—except in the case of some little stock that is carried over the summer.

I consider it to my interest that the grocer who handles my honey shall make a good profit—20 to 30 per cent. is none too much on small packages. They should be classed as "fancy groceries," and should bring a better profit than honey in bulk, or sugar and flour. In this way I secure the hearty co-operation of the grocer, which would not be the case if his profits were small.

I sell pint Mason jars at \$2.75 per dozen, \$30 per gross; third-pints, \$1.10 per dozen; per gross, \$12. Pints run about 19 pounds to the dozen; third-pints, about 6. Pints retail for 30 cents each; third-pints from 12 to 15 cents each, according to circumstances. But it will be argued these prices are too high, and honey will not be used largely if these prices prevail. I answer that this is for a fancy article in small packages. Do not choose red raspberries in pint boxes sell high? and yet good fruit can be bought cheap in larger quantities, and larger quantities are used, too. Almost any grocer will sell on smaller margin in bulk by the crockful or pailful, as the large packages need no display, and the profit on the large package is as much as on the little one.

I believe bee-keepers ought to push the local trade more. Much might be done by advertising in one way or another.

I sell the most of the honey sold in bulk in my own town, and I find but comparatively few will buy in bulk, altho the price is much cheaper. By far the larger number want only a pint or less at a time. Of course, I do not undersell the grocers on the same size of packages they handle. In soliciting orders from boarding-house keepers and families I prefer to take along my samples in flint-glass Mason jars, and I carry them in a sample case, which allows the light to strike through, just as in the grocery. Even amber honey from fall flowers looks fine if I can get the jars between my customers and the sun; and once people begin to admire its beauty, it's not difficult to get them to taste, which sometimes gets a long

way toward making a sale. As I never allow any but my best honey to go in to the grocery trade, I have to work off all my off grades to families, boarding-houses and bakeries. The dark and strong kinds, if I have any, are used for cooking, and recipes are given away with the honey.—Gleanings.

Lorain Co., Ohio.



What About the Use of Leveled-Down Combs in the Sections?

BY S. A. DEACON.

The man who opposes, by word or deed, the teachings and long practice of such veterans and pastmasters in the art of apiculture as the late Mr. B. Taylor, and unhesitatingly contends that a main feature in that gentleman's system of comb honey producing was altogether wrong, must possess a vast and enviable amount of confidence in his own apicultural knowledge and skill!

Let such as perused in the Bee Journal for Oct. 8, 1896, Mr. Abbott's condemnation of the use of drawn combs in sections, turn back to page 614 of the Bee Journal for 1895, and there read Mr. B. Taylor's emphatic statements regarding the undoubted advantages accruing from their use, as compared with that of starters, or even with full sheets of foundation; they are compared in his essay at the Toronto convention. Perhaps Mr. Jewell Taylor will kindly inform us whether he, or his late father, ever experienced the bad consequences of using drawn combs upon which Mr. Abbott lays so much stress. Their use is greatly favored, and strongly recommended, too, by that expert English bee-master, Mr. Samuel Simmins.

If, as Mr. Abbott affirms to be the case, honey rapidly deposited, as in drawn combs, is liable to either fermentation or granulation, or to both, it would be interesting to know how the Messrs. Dadant overcame the trouble; for their extracting combs not being leveled down, the conditions favorable to fermentation, and, according to Mr. Abbott, for granulation, are, in their case, present in a greatly enhanced degree. And this suggests a question which I would very much wish to have answered by those who, unlike Mr. Abbott, successfully use drawn comb, viz.: How much should they be leveled down? Or, in other words, what depth of cell should be left? And what was the late Mr. Taylor's practice in this respect? Here again Mr. Jewell Taylor can come to our aid.

What with one set of experts strongly advising one mode of procedure, and another set as staunchly opposing it, the intellects of the majority of the lesser fry naturally get befogged, perplexed, bewildered and confused, and, half his time, the tyro "don't know where he are." And when I hear Mr. Abbott saying that the use of drawn combs causes their too-rapidly-deposited contents to ferment, and, in the same breath, that it causes them to granulate, I feel strongly inclined to ask him, Do he really know where he are? Surely, the use of drawn combs cannot be productive of two such chemically opposite results, for the one is due to an excess of moisture, and the other to evaporation of the same.

It may be that the constantly presented conflicting statements regarding matters connected with our calling (and upon which one would suppose there could hardly exist two opinions) has dulled my intellect, and made me somewhat obtuse; still, I venture to think I am not the only one Mr. Abbott's remarks have put in a hole, and that others besides myself would be grateful to that gentleman for a little more precise explanation of his views on this rather important and decidedly interesting matter. What have experiments at Lapeer, Mich., proved "along this line?"—to adopt a favorite expression of our good Mr. Doolittle.

Come, Mr. Doolittle, tell us what you know about it. It would be little use, I suppose, asking Dr. Miller's opinion, because he's sure not to know, you know; that medicine man never do know nuffin'—unless, perhaps, it be how to get 10,000 sections of honey!

Then, to "make confusion worse confounded," Mr. Abbott proceeds to tell us that he "had trouble to keep the honey from granulating in the cells." We must assume, then, that he did prevent it from granulating; ergo, altho under the circumstances the honey is liable to granulate in the cells there is a means of preventing it, and that, consequently as far as least as my intellectual eyesight carries me, all objection to the use of drawn comb is removed.

Mr. Abbott doesn't say how he prevented it; perhaps like the canny Scotch engineer who had a plan for relieving the congestion of the vehicular traffic of London, by converting the bed of the Thames into a macadamized road, the *modus*

operandi (in the Scotchman's case, of keeping the water out, and in Mr. Abbott's case of keeping it in) is "a secret he means to keep his ain sel." Did Mr. A. and his hired man sit up all night doing battle with the granulating fiend? or how was it done? I never yet heard of any plan, method or process of checking granulation in comb honey once it had set in; but then I confess I don't know very much about the matter. When I see *extracted* honey going that way I call in hot water to my aid, but I doubt if it would be quite advisable to boil the sections. *Quiten sabe?* we are living in a wonderful age, and are daily finding out something new.

Mr. Abbott is an old and experienced apiarist, that we all must admit, and his opinions are, as a rule, entitled to respect; nor can we be otherwise than grateful for the readiness he ever displays to impart the results of his experience to us recruits in the bee-keeping ranks; but until an ecumenical council shall have decreed Abbots to be as infallible as Popes, or, better still, until we shall have governed the opinions of those veterans whose valuable little pars constitute the contents of the Question-Box column, I, for one, shall keep "an open mind" on this matter of the use of drawn combs in sections.

HONEY PRICES IN SOUTH AFRICA.

I have just received a letter from Mr. F. J. Haarhoff, of Pretoria, Transvaal, in reply to one I address him in reference to his statement, which appeared in Gleanings, and was reproduced in the American Bee Journal, to the effect that comb honey was worth half a crown a pound in Pretoria, and which inclined me to the opinion that the ramifications of Horrie & Co. extended to South Africa. But Mr. Haarhoff, who, it appears, is a general dealer and broker—and, for all I know to the contrary, a good and trustworthy one—explains that when he and a few neighbors mustered about 50 colonies between them, which they kept in their gardens, or backyards, they managed to get a few sections from fruit-bloom, and, being then and there somewhat of a rarity, they fetched fancy prices. "But now," to quote from Mr. H.'s letter, "competition has appeared in the field, and already the price has greatly receded; and very little above the present supply would bring prices still lower." Yes, seeing that Pretoria and Johannesburg together have a population of only about 40,000 whites, I fear a consignment of say 2,000 pounds would make honey a drug in the market. So I trust that no hastener after riches on your side of the big pond, will be induced, on the strength of that "half crown a pound" statement, to send their product across the deep blue sea; for what with freight, duty, brokerage, land carriage and smash, I don't think he would see very much change out of that half crown.

South Africa.

Now for New Subscribers for the rest of 1897:

We would like to have each of our present readers send us at least one new subscriber for the Bee Journal before July 1, 1897. That surely will not be hard to do, when they will need to pay only 50 cents for the rest of this year. That is about 7 months, or only 7 cents a month for the weekly American Bee Journal. Any one with only a colony or two of bees should jump at such an offer as that.

Now, we don't ask you to work for us for nothing, but will say that for each new 50-cent subscriber you send us, we will mail you your choice of one of the following list:

Wood Binder for the Bee Journal.....	20c.
50 copies of leaflet on "Why Eat Honey?".....	20c.
50 " " on "How to Keep Honey".....	20c.
50 " " on "Alsike Clover".....	20c.
6 copies "Honey as Food and Medicine".....	20c.
1 copy each "Preparation of Honey for the Market" (10c.) and Doolittle's "Hive I Use" (5c.).....	15c.
1 copy each Dadants' "Handling Bees" (8c.) and "Bee-Pasturage a Necessity" (10c.).....	18c.
Dr. Howard's book on "Foul Brood".....	25c.
Kohnke's "Foul Brood" book.....	25c.
Cheshire's "Foul Brood" book (10c.) and Dadants' "Handling Bees" [8c.].....	18c.
Dr. Foote's Hand-Book of Health.....	25c.
Rural Life Book.....	25c.
Our Poultry Doctor, by Fanny Field.....	25c.
Poultry for Market and Profit, by Fanny Field.....	25c.
Capons and Caponizing.....	25c.
Turkeys for Market and Profit.....	25c.
Green's Four Books on Fruit-Growing.....	25c.
Ropp Commercial Calculator No. 1.....	25c.
Silo and Silage, by Prof. Cook.....	25c.
Bienen-Kultur [German].....	40c.
Kendall's Horse-Book [English or German].....	25c.
1 Pound White Clover Seed.....	25c.
1 " Sweet ".....	25c.
1 1/4 " Alsike ".....	25c.
1 1/4 " Alfalfa ".....	25c.
1 1/4 " Crimson ".....	25c.
Queen-Clipping Device.....	30c.
The Horse—How to Break and Handle.....	20c.

CONVENTION PROCEEDINGS

Report of the North American Convention Held
at St. Joseph, Mo., Oct. 10-12, 1894.

REPORTED BY LOUIS R. LIGHTON.

[Continued from page 358.]

WHAT SHALL WE PLANT FOR HONEY?

Biennials:—

Mellilot or Sweet Clover (*Melilotus alba*). The white mellilot or Bokhara clover is an excellent honey-plant, yielding from early in July until frost. There are a few plants of this near my apiary and my bees were on them during the whole period of bloom, but especially in July and August when there was nothing else for them. I have purchased a bushel of the seed to sow next spring. The plant sends its roots deep, hence stands drouth well. In the South it is used extensively as a forage crop, for early spring pasturage, and as a soil renovator, while if cut before the stems become woody the hay is excellent. It will thrive on any soil containing lime, and often yields five to six tons per acre when cut two or three times. Even if not desirable, in a given case, to cultivate sweet clover as a forage plant, bee-keepers will do well to scatter the seed in waste places anywhere within a mile of their apiaries, especially where summer pasturage is lacking.

Fuller's Teasel (*Dipsacus fullonum*) yields honey abundantly during the months of July and August, lasting some three weeks. The price of the heads (used by fullers in raising the nap on cloth) is now scarcely one-tenth what it used to be in this country owing to the invention of machinery to do the same work, so that it is doubtful about there being much profit in cultivating it.

Winter Rape (*Brassica napus*) sown in the summer or autumn (according to the latitude) blossoms the following April or May and yields honey abundantly. The seed of the Dwarf Essex variety is now much sought after for sowing to produce autumn or early spring pasturage, especially for sheep, or for soiling purposes. A valuable oil can also be made from it. It is raised extensively in Germany for this purpose, and bee-keepers there secure considerable yields of honey from this, as well as from the annual or summer variety.

Turnips and Cabbages, when planted out to secure seed, furnish an early yield of good honey.

Parsnip (*Pastinaca sativa*).—When permitted to run up to seed this plant is said to yield honey abundantly. Personally I do not know anything about its honey-producing capacities. But one of our honorary members, Mr. George de Layens, of France, places it in the front rank. If his observation is correct, why should not our bee-keepers raise the parsnip seed for the country.

Annuals:—

Crimson clover (*Trifolium incarnatum*). This has been raised most extensively in Delaware and farther south, but may be sown in the spring anywhere in the North. It would surely thrive in Pennsylvania, Ohio and westward, and will grow on light sandy soils too poor to raise other clovers; also on light clay soils, and soils lacking in lime. It is an excellent renovator of the soil, a good forage plant, furnishing good pasturage and a fair crop of hay, while our bees are busy on it for some time—even as early as April in the South when the seed has been sown in August or September.

Japanese or Bush clover (*Lespedeza striata*) is another leguminous plant largely grown in the South for forage and as a renovator of worn soils. It can be raised farther north—surely as far as the Ohio and likely beyond this limit if sown after all danger of frost is past. Moist clay soil seems best adapted to it, but it will grow on very poor land—anything but pure sand—and stand drouth well. The North Carolina Experiment Station says of Japan Clover: "The ability to grow on land too poor to produce even broomsedge, and to crowd out all other plants: its dying each winter and leaving its roots to fertilize the soil; and its possessing the nitrogen-fixing power peculiar to the pulse family of plants, place Japan clover at the head of renovating plants adapted to the climate of Southern States. It is unequalled as a restorer of worn fields, such

as are generally turned out to grow up in pines." The extended cultivation of this crop will greatly benefit our agriculturists, and bee-keepers will also derive advantage from it.

Yellow Mellilot (*Melilotus officinalis*) and Black Medick or Yellow Trefoil (*Medicago lupulina*) are leguminous plants more often met with in the South than in the North, yet both of which may also be grown almost anywhere in the Union, and will vary from annual to biennial according to latitude. They are honey-plants as well as forage and soil-renovating crops.

Summer Rape (*Brassica campestris* var. *colza*). This variety of rape sown in the spring blossoms from six to eight weeks. It is not nearly so valuable as the winter rape for forage, but is raised for its seed and from which a useful oil is exprest. Where the summer heat and drouth are not too great for it, this plant may be made to render good service to the bees, when sown so as to fill the mid-season gap in the harvest.

Melon, cucumber, gourd, squash, and pumpkin vines yield honey all summer, and where some acres are devoted to these the return is considerable. Nor is it a one-sided affair altogether, for the cultivator of these cucurbits is greatly indebted to the bee-keeper for the complete fertilization of the blossoms and consequent productiveness of his vines—a statement which, for that matter, applies to many other crops as well.

Onion (*Allium cepa*) yields honey. No doubt also other plants of the same genus, as for example, Chives (*A. schoenoprasum*) Shallot (*A. ascalonicum*), Garden Garlic (*A. sativum*), and Garden Leek (*A. porrum*). The Wild Leek (*A. tricoccum*) is an abundant yielder, and tho I never harvested honey from any other species or genus, my bees once gathered several hundred pounds of honey from the wild leek, which, tho it had a good body and was rather light-colored, was at first so strong in taste and odor as to be very repugnant, but became after exposure for some days in open buckets quite palatable. Since the leek is one of the strongest of these plants, I judge the honey from the others would also lose any disagreeable qualities it might at first possess.

Buckwheat (*Fagopyrum esculentum*) produces large yields of honey some seasons. The honey is dark and strong-flavored, but is relished by some. The only caution to be observed by the bee-keeper is not to sow it at a time or in a locality where it would interfere with a yield of light honey. It blooms in about five weeks from the time of sowing, and remains usually about three weeks, or until frost is sown in midsummer. I have found, contrary to the view entertained by some and frequently repeated in print, that it is excellent for winter stores. My bees have wintered on buckwheat honey alone some seasons in a cold climate, too. I would recommend its cultivation in good, rich soil, in localities not likely to experience great drouths with high temperature.

Cotton (*Gossypium herbaceum*) begins to blossom in June, and, tho each flower fades within about three days after opening, others develop successively until late autumn, furnishing, under favorable circumstances, good yields. Unfortunately in those States where cotton growing is followed extensively, apiculture is one of the neglected industries.

Okra or Gumbo (*Hibiscus esculentus*). This plant belongs to the same family, Malvaceæ or Mallow family, as cotton, and the hollyhock, so common everywhere, as well as the abutilons prized as ornaments, all of which are very acceptable to our bees. Okra pods are excellent for soups and stews, and they may be dried and used during winter. If one is located near a city he might raise this extensively and find a market for it. Perhaps the dried product would find a profitable sale if shipt to our larger cities.

Indian Corn (*Zea mays*) yields honey and pollen.

Vetches (*Vicia* spp.), Cow-Pea (*Vigna [Dolichos] (sinensis)*), Lentil (*Lens esculenta*) and Lupines (*Lupinus* spp.) are all leguminous annuals, valuable for forage, as nitrogen-collecting soil-renovators, and for their honey. They are mostly grown in the South, but may also be raised successfully in the North. The Russian or Hairy Vetch (*Vicia villosa*) is the hardiest and has been found the most valuable of all vetches for this country. The Common Vetch (*V. sativa*) is of smaller growth, and may be known by its smooth light-green leaves, with pink flowers, while the Russian vetch has purple flowers in larger clusters, and dark-green leaves which are hairy. What are known as "Winter Vetch," and "Chinese Vetch," are species of *Lathyrus* or perennial peas, valuable as forage-plants, but not to be confounded with true vetches. Honey is secreted, under favorable circumstances by glands located at the bases of the leaves of vetches.

The Cow Pea extensively grown in the South for forage, hay, and green manuring, also yields honey from similar extra floral glands. The Massachusetts and Connecticut experi-

ment stations report favorably on the growth of this crop in the North, but the Kansas station in two of its reports mentions that it did not seem adapted to that locality. Since there are many varieties of cow peas, some of them dwarf, and maturing in two months' time, while others require a long season, and, tho they may produce abundant forage in the North, will not ripen seed there, it is natural that reports should vary. Of their great importance for the South there can be no doubt, and in many localities in the North their value will be equally certain both to the agriculturist and the bee-keeper.

Lentils may be grown North as well as South, and are excellent for fodder, especially for cows. The seeds make excellent soup. These, as well as the vetches and lupines, are much more widely cultivated in Europe than here, and our bee-keepers will do well to encourage their spread among American armers.

Of the Lupines there are many species, but only three are considered valuable for forage, namely: the white lupine (*Lupinus albus*), the hairy or blue lupine (*Lupinus hirsutus*) and the yellow lupine (*Lupinus luteus*). The lupines are rather woody to make good fodder but may be utilized for sheep. They will grow on very poor sandy lands. Vast barren wastes in Europe have been brought under profitable cultivation by green manuring with lupines. They do not attract our bees as much as many other leguminous plants, but are still worth consideration.

Spurry (*Spergula arvensis*) belonging to the Pink family, is a weed in some places, but cultivated, especially in Europe, as a forage plant, sheep and cattle being fond of it. The stalk grows about one foot high, blossoms white, borne in June and July. Plant prefers sandy soil. According to the Michigan Experiment Station (Bul. 68) this plant has been of great value on the jack-pine plains of that State. At the Oregon Station it yielded (Bul. 4) 20 tons of green forage per acre. One of our European acquaintances, who keeps about 400 colonies of bees, says that this plant yields considerable honey and pollen. This with the testimony from the experiment stations constrains me to place spurry in this list, altho I have made no observations on it myself.

Hemp (*Cannabis sativa*), cultivated for its fiber chiefly in Kentucky and westward and southeastward, is said to be an excellent honey-yielder. Do the bees not get more pollen than honey from it? It is doubtful whether it could be profitably grown much farther north; but its acreage might be much extended in the latitudes mentioned. Why do not the bee-keepers of those regions look to this?

(Continued next week.)

Questions and Answers

CONDUCTED BY

DR. C. C. MILLER, MARENGO, ILL.

[Questions may be mailed to the Bee Journal, or to Dr. Miller direct.]

Swarming—Drawn-Comb—Uniting.

1. I have several hives with the brood-nest fairly full of bees and brood, and with a good supply of honey, but they are doing nothing in the supers; I have a number of combs almost solid full of honey that I took from the hives early this spring; would you advise putting one of these (uncapt) combs of honey in the brood-nest with the purpose of having the bees carry the honey into the super? or would you wait until they begin storing in the super (if they ever do), and then try the above plan?

2. To prevent swarming: A colony swarms with a clipped queen. The combs are taken from the hive and the bees shaken from them; all queen-cells are cut out, and the queen and all the bees returned to the hive. Is it your experience that this will stop the swarming fever? or will they go to work on new queen-cells and swarm again?

3. To start drawn-comb for supers: It seems impossible to get my bees into the supers at all unless supplied with drawn-comb. Do you think well of the idea of putting a frame of foundation outside the division-board in the brood-

nest with the idea of having the bees draw the foundation, and then cutting it out and fitting it into the supers?

4. Do you think it safe to unite a queenless colony with one having a queen? Is there not danger of the queen being balled or injured? And if so united, would it be by shaking the bees of the queenless colony from their combs in front of the hive to which they are to be united? or how?

5. Suppose you have a 10-frame hive of bees in good condition, but not working in the supers, and you place under them another 10-frame hive with no bees, but filled with combs of honey. What would be the effect?

WESTERN PENN.

ANSWERS.—1. I don't think I'd do either; that is, I wouldn't put in frames of honey left over from last year with the expectation of having it carried up into the supers. But it may be a good plan to put a frame of honey in the brood-nest, for it isn't the easiest thing to crowd out the queen early in the season by having too much honey in the brood-nest. Very few realize perhaps how much honey is used up in brood-rearing, and it seems to encourage the bees to go more largely into brood-rearing if a large lot of stores is in sight. It will also practically be putting just so much more honey in the supers, for the bees are not likely to store above till the brood-nest is filled.

2. In nine cases out of ten they'll swarm.

3. That's the Oatman plan, and is much practiced by some of the bee-keepers of northern Illinois. It's a good plan, the only objection being the labor involved.

4. If honey is coming in, there's very little danger—less danger by a good deal than if both colonies had queens. You can shake the bees in front of the hive, as you suggest, or, perhaps better, you can quietly place frames and bees in the hive. If you want to be very safe about it, put one hive over the other, leaving a piece of heavy paper between with a little hole big enough for a single bee to pass through.

5. Probably they wouldn't work in the super so soon as if you had not given the frames of honey. If the hive is crammed full, so not a drop of honey can be got into it, there ought to be no difference.

They Will Be Hybrids.

Will a hybrid queen, purely mated with an Italian drone, produce all yellow workers? If so, will they be gentle like pure Italians? E. B.

ANSWER.—No, they'll be hybrids, or, properly speaking, a cross—and may be cross as well.

Ten Interesting Questions and Answers.

1. Do you put sections on as soon as a swarm is hived?
2. How can I keep ants out of my honey-house? It has four pillars or posts set in the ground; tar on them soon gets hard. Turpentine on a narrow strip of cloth tied around them soon evaporates.
3. I want my bees to swarm, but do not want any increase in colonies. How shall I manage them?
4. I use 10-frame dovetailed hives, and work for comb honey. What kind of hives do you use? and what kind of honey do you work for?
5. Do you put sections on before the bees swarm?
6. What is meant by "sealed covers"?
7. Which do you consider the best surplus arrangement for comb honey—the T super, wide frame, or section holder?
8. How many years will a queen do good service in a 10-frame hive?
9. Is 12½ cents enough for honey in a 4¼x4¼x1½ section?
10. Which style of frame do you prefer—Hoffman or old-style thick top-bar? I mean in regard to manipulation.

MISSOURI.

ANSWERS.—1. If you put sections on as soon as a swarm is hived, there is some danger that the queen may go up and lay in the sections, unless a queen-excluder is used, so if you don't use excluders it's better to wait a day or two before putting on supers. As soon as the queen gets started laying below, it's all right to put on supers.

2. Try chalk. Some one has said they will not cross a place well chalkt. Powdered borax is also disagreeable to them. You might have pasteboard or tin so arranged about the pillars that you can have a line of powdered borax of considerable depth. You could do as they do in keeping some kinds of worms from climbing shade-trees. They have a sort of dish of tin surrounding the tree, filled with oil. If it had

been planned for in the first place, the pillars could have been set in milk-pans, then you could keep cheap oil in the pans.

3. One way is to proceed much on the ordinary plan, taking pains to prevent all swarms after the first, then uniting in the following spring or early summer down to the desired number. To prevent after-swarms, put the swarm on the old stand, placing the old hive close up to it, then remove the old hive to a new location about a week later. If you want to limit the number still more, put two old hives together, one on top of the other, at the time of setting on a new location. In this case you would have in many cases to remove the hives at a different time from what you otherwise would. It might be that two swarms would be a week apart. Put the old hive of the first on its new stand not later than a week from the time of the swarm, then three or four days later put the other old hive on it. If you want to carry the limitation still farther, you can pile three or four hives together, and extract some honey from the pile. The third or fourth hive added to the pile might have all its bees brushed off.

4. I work for comb honey, and have 8-frame hives. If I had 10-frame hives I should do a lot of thinking before changing to 8-framers, especially if I didn't mind lifting heavy hives. Some of my colonies now have brood in frames 10 or more (sometimes they have brood in 14 frames), but of course they have a second story for that.

5. Yes, sections are usually put on about 10 days after the first white clover blossom is seen. Last year was remarkably early, the first clover blossom being seen May 6. This year is earlier than usual, the first clover being seen in bloom May 24, making the time to put on sections not much after the first of June.

6. A plain board cover of single thickness is now much used, and in the fall the bees will fill all cracks with bee-glue, fastening the cover to the hive with glue, and such a cover thus sealed down is called a "sealed cover."

7. As yet I've found nothing that suits me so well as the T super, but I'm not wedded to that, and when I find something enough better I'll change.

8. Some of them four years, and some of them not four months. Perhaps in general two or three years.

9. That depends altogether on circumstances. Sometimes honey is worth more, sometimes less, and in some places it may be worth more than in others.

10. Neither. I want a frame that is held rigidly in position, but as free as possible from propolis. On account of their wintering qualities, however, I have a liking for closed-end frames.

Foundation Roller.—Dividing.

1. How can I keep the foundation roller from smashing through the foundation below the—well, the place where it is fastened?

2. I divided my bees this evening, and as I have only one colony, I am a little anxious as to the result. I put five frames of foundation, one of honey, two of brood, and the old queen in the new hive, and put it on the old stand, and left the rest in the old hive and put it on a new stand. Did I do what was right? They were not building queen-cells, but were getting quite crowded.

OREGON.

ANSWERS.—1. I've had no experience in making foundation, and don't really understand the question. Perhaps some of the friends can answer.

2. Very likely all will come out right, altho it is possible you might better have waited a little later.

Transferring Bees and Combs.

How can I transfer my bees from 10½x10½ frame into a Langstroth frame hive?
N. Y.

ANSWER.—It ought not to be a difficult matter. Cut a comb out of the frame; cut off just enough to let the comb fit snug in the new frame, then from another comb cut a piece large enough to fill up the rest of the frame. The pieces that are left can be cut off a little shorter, and be used in filling up the next frame. That will leave some little pieces, which it may be as well not to try to use. Take pains to throw out the drone-comb. If you have no other means of fastening the combs in the frame, common wrapping-twine will answer; and if you don't get to it in time the bees will gnaw out the strings. First, lay the strings out straight on a board a little larger than the frame, lay the frame on the strings, fill in the comb, tie, raise board and all so the frame will be in the same position as when hanging in hive, then take board away.

A Beginner's Questions.

1. Is the young queen that goes with a second swarm mated before she goes out with the swarm? I have a second swarm that came 12 days after the first swarm.

2. There are two capt queen-cells left in the old colony which we transferred on the same day the second swarm came—May 26. How long will it be before the young queen will hatch, be mated, be laying?

3. If a swarm has three frames of comb partly filled with honey when hived, how soon must I put on a super?

4. Will a swarm that has all the frames filled with brood-foundation be ready for a super in the same number of days as the swarm that has three frames of comb?

KANSAS.

ANSWERS.—1. It is possible that a young queen may be fecundated in the act of swarming, but I think not before. It is nothing unusual for second swarms to vary as to the time of issue, being as late as 16 days after, and when the weather has delayed the first swarm, the second may come perhaps five days after; but the usual rule is about eight days after the first.

2. Very likely the young queens in those capt cells were just about ready to emerge, and the successful incumbent ought to be laying somewhere in the neighborhood of 10 or 12 days later.

3. The only objection to putting on a super at the time of hiving the swarm is the danger of the queen going up and laying in the super. Those combs partly filled with honey will be a more attractive place to lay than the super, so you may as well put on the super at once.

4. Of course there can be no difference, if both are ready for supers as soon as the bees are hived, but if the swarm is hived on foundation it is better to wait until a start is made in the brood-nest before putting on supers, unless a queen-excluder is put under the super.

Will They Swarm this Season?

1. I have a small colony of bees that lost their queen during the winter. May 4 I introduced an Italian queen, and on the 11th I found that she was laying all right. Will this colony be likely to swarm during the summer?

2. I had a very strong colony in a box-hive, and on May 11 I drummed out the queen and a few of the bees, putting them into a new hive (with foundation in all the frames) on the old stand, and placing the box-hive in another part of the yard, intending to transfer them after 21 days to a movable-frame hive. If they rear a queen will they be likely to swarm this summer?

3. Will those on the old stand be likely to swarm? There are a good many bees working from both hives.
W. L.

ANSWERS.—1. Yes, if they're strong enough. The changing of the queen makes no difference, in and of itself, only the colony is no doubt much weaker than it would have been if they had had a queen laying right along all spring.

2. They are almost certain not to swarm this summer.

3. No, it is not at all likely that either one will swarm.

New Union and the Bee Journal.—In order to help our subscribers, and also the United States Bee-Keepers' Union at the same time, we have decided to offer a year's subscription to the American Bee Journal and a year's membership dues in the New Union, both together, for \$1.75. But it must be understood that in order to get this rate, all arrearages of subscriptions must be paid, and the \$1.75 rate to apply on advance subscription.

Now send us your orders, and we will attend to turning over the \$1.00 membership fee to the New Union, on each subscription to the Bee Journal as per the above offer. This ought to add 500 members to the New Union by June 1. If it does, our contribution will be just \$125.

Now, if you want to see the New Union succeed in its grand work, in the interest of all the bee-keepers, come on with your cash. General Manager Secor is just aching to do his part whenever he sees sufficient funds in the treasury to pay the bills.

The McEvoy Foul Brood Treatment is given in Dr. Howard's pamphlet on "Foul Brood; Its Natural History and Rational Treatment." It is the latest publication on the subject, and should be in the hands of every bee-keeper. Price, 25 cents; or clubbed with the Bee Journal for one year—both for \$1.10.

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MEMBERSHIP FEE—\$1.00 PER ANNUM.

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Next Annual Meeting at Buffalo, N. Y., Aug. 24-26, 1897.

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Editorial Comments.

The New Union and Arizona.—Last month the Secretary of the United States Bee-Keepers' Union received the following interesting letter from the Secretary of the Salt River Valley Honey-Producers' Association, Arizona, which speaks most emphatically for itself:

DR. A. B. MASON, Toledo, Ohio—

Secretary United States Bee-Keepers' Union.

Dear Sir:—I enclose herewith draft for \$24 in payment of membership fees for the persons named.

At the last meeting of our Association I presented the claims of the New Union, and upon my suggestion it was decided to urge all our shippers to join, and in order that none should fail for the reason of being short of cash just now, we offered to advance the fee until returns are received from the first shipment of honey. The result is 24 names, and I think that I will be able to get a few more.

Whenever the proper time comes I favor changing the name from Union to Alliance or Association. The organization is a long move in the right direction, and I trust that bee-keepers all over the country will rally to its support. If at any time more funds are needed, let me know, and I think we can help you some.

Very truly,

J. WEBSTER JOHNSTON, Sec.

Now that is a leader! What a fine send-off that gives the New Union. And to think that it comes from a lot of bee-keepers who have "gone up Salt River" to produce honey! Where is the Association that will out-member the above in the New Union? We'd like to mention them. And Dr. Mason would be pleased to hear from them.

Read Mr. Johnston's letter again, and then send in your own membership fee.

See "Bee-Keeper's Guide" offer on page 382.

Queen-Bees in the Mails.—Mr. C. M. Hicks, in Gleanings for June 1, mentions a very important matter concerning the mailing of queens, and suggests that all the bee-papers pass it along. We are glad to do so. He wrote:

"A few years ago I got a queen, from a queen-breeder, in a second-hand cage. The candy was put into the wrong end of the cage; and in place of the cork he used a piece of corn-stalk. It must have dried out, or was too small when put in; anyhow, when I took the cage out of the mail-bag, the queen was nearly out. I just said then that I wouldn't have had those bees get out in the mail for a dozen such queens."

It doesn't seem possible that any queen-breeder would be so infernally careless and shiftless as indicated by the above paragraph. As Mr. Hicks says, "queen-bees are mentioned in the Postal Guide as admissible when *properly packed*," and not otherwise. Just such slipshod work as Mr. H. tells about, is what would cause the exclusion of queen-bees from the mails, if anything would.

We trust that if any of our readers have a similar experience to that of Mr. Hicks, they will report the facts to us, with the name of the sender, so that he may be properly advertised, and bee-keepers warned not to patronize him. Any breeder that is guilty of such carelessness ought to be deprived from the use of the mails in every way—ought to be eternally exiled to some small island in the Pacific Ocean.

Why is It so many people are careless about paying their subscriptions for newspapers? Like Dr. Miller, we "don't know." But we do know that not a few who are financially able and responsible permit their subscriptions for the American Bee Journal to get in arrears one, two and even more years if we are willing to continue to send the paper. Recently we cut off a large number of subscribers who were in arrears, simply because we could not bear the burden longer. Some of these were offended, while others said it was all right, and remitted what they owed us. We have subscribers who insist that the paper shall be sent no longer than it is paid for. Others complain if we do this, and intimate that we are heartless. So there you are, and there we are. What is to be done? The best thing for all concerned, for the subscribers as well as the publishers, is to send in renewals promptly, and, if the paper is not wanted, to send us a postal card to that effect. We wish to do what is right, and have no desire to force the Bee Journal on any one. But we do ask those who know they are in arrears to send us the amount due at once, and if possible add the dollar for another year.

Adulterated Honey.—The Sacramento (Calif.) Record-Union lately contained this paragraph:

"In a recent address delivered at the National Museum in Washington by H. W. Wiley, the chemist of the Department of Agriculture, he displayed a sample of adulterated honey, which it was claimed, defied detection, and said that out of 500 samples he had purchased throughout the country 60 per cent. were adulterated. The adulterated honey that he showed was one of the cleverest of all adulterations, the manufacturers going so far as to put in remnants of bees' wings, legs, etc., to carry out the fraud. Of course, if the making of bogus honey has been brought to such a point of perfection as the Agricultural Department chemist's statements indicate, it is not going to be an easy task to stop the counterfeiting. Still, unless steps are taken to put an end to the sale of adulterated honey, one of the most important of California's interests will suffer severely."

It seems to us there never was greater need of an organization like the United States Bee-Keepers' Union than right now. What bee-keepers must do is to get together and stay together in this fight, if they ever expect to accomplish anything against the adulteration of their product.

There is a great work to be done, and in our opinion there is nothing outside of a big, strong, united association of

bee-keepers that will effect anything along the line indicated in the quoted paragraph above. In view of the greatness and importance of the work to be accomplished, there ought to be a membership of several thousand live bee-keepers secured right away. The objects to be gained are such as all bee-keepers are interested in, and upon which all should unite quickly, and with a determination to do the utmost to win the battle to be waged against the growing evil of honey-adulteration.

Reader, what will *you* do about it? Will you lend your influence and dollar to help in this just cause? It is *your own* fight—entirely in your interest.

Cheap Uncapping-Can.—Mr. J. H. Martin tells in the Rural Californian about an uncapping-can, as follows:

Mr. R. A. Hitchings, of Los Angeles, who owns a large apiary in Verdugo canyon, and is a practical bee-man, uses two common galvanized-iron wash-tubs. Tub No. 1 is provided with a honey-gate in the bottom, then inside within six inches from the top four stops or braces are soldered, so as to support tub No. 2. Many holes are punched into this tub both in the bottom and five inches up the sides. There is a little space all around between tub No. 1 and tub No. 2, and the cappings have an excellent chance to drain.

A wooden frame is fitted across the top upon which to uncup. It is easily taken apart to clean, and can be made at an expense of less than \$2.00, or according to the size of the tub used. When not in use the whole of it can be covered with a square of cheese-cloth. Let us be neat in our work, and use the Hitchings wash-tub uncapping-cans.

Bee-Hunting in the Okefenokee.—The Chicago Record, speaking of Florida, says that one of the most remarkable features of the Okefenokee region is the abundance of wild bees. One of the branches of the swamp bears the name of Bee-Haven Bay, and it is a common saying that every tenth tree is a bee-tree within an area of 20 or 30 miles square.

During the summer months the lake and ponds get very low, and a large portion of the swamp becomes dry land. Then the harvest of the bee-hunter begins. Two men will go into partnership, and, with a scrub steer hitched to a two-wheeled cart loaded with tubs and kegs, they will start for the swamp armed with their rifles and axes. After the lapse of a week or ten days they will re-appear at the nearest station laden with honey and beeswax and venison hams, which they will dispose of, and, purchasing a fresh supply of bacon, coffee and ammunition, they will return to the hunting ground. For a month or six weeks they will scour the woods until the winter rains set in and drive them back to their log huts on the sand ridges, with a supply of venison and wild-hog meat sufficient for several months, and with a snug sum of money.

The Weekly Budget.

MR. W. M. BARNUM, editor of Colman's Rural World, and an experienced bee-keeper, writing us June 9, said:

"I read the American Bee Journal every week with as much avidity as I did 15 years ago—and it's just as good."

MR. J. H. MARTIN, in the June Rural Californian says, in mentioning California honey:

"The quality of honey this year is excellent, well ripened, fine flavor, and white. . . . All through the interior we hear favorable reports, but with the remark, 'It will be a short yield.'"

DR. C. C. MILLER, writing us June 8, said:

"Bees are getting ready to swarm; white clover is opening out in the greatest abundance, but there is very little

honey in the hives. The weather has been cold, so they could do nothing, and I'm beginning to feel just a little anxious lest this may be one of those years when clover blooms but doesn't yield."

MR. F. BUSSLER, a bee-keeper in Mexico, writing us May 31, said:

"In the exhibition of Cojoacan I got the first prize and \$100 cash. I was the only one, and the first one, that ever exhibited things like that here, I think. I have now quite a little trade in hives and bees, and get many letters asking for information."

MR. F. L. THOMPSON, of Montrose Co., Colo., writing us June 5, said:

"I am running an apiary of 128 colonies on shares. I had a May 16th swarm, too—the day after I got here. So far, 26 colonies have swarmed, the alfalfa has not yet bloomed to amount to anything. I am extremely busy, but hope to have something to write about later."

MR. J. D. EVERETT, a 40-colony bee-keeper about 10 miles west of Chicago, called on us last week. He had about 1,500 pounds of comb honey last year from his apiary. He uses the Heddon hive, and wouldn't have any other. Mr. Everett has very little time to devote to his bees, running them entirely as a side-issue. But he some day wishes to increase to 100 colonies. He hives each swarm in one of the Heddon half-brood-chambers, on full sheets of foundation, and then puts the super on at once. He has no trouble about getting the bees into the sections.

"THE VAN ALLEN & WILLIAMS HONEY-EXTRACTOR is, I believe, the only extractor on this market that is really an automatic reversible machine. By simply slowing up the motion and reversing the direction of the crank, the comb baskets are reversed. The old Stanley machine accomplishes the same thing, but in a much less desirable manner than it is done by the Van Allen & Williams. This machine costs but a trifle more than other reversible extractors, and it should be remembered that to get along without a tool that saves labor is the worst kind of extravagance." So says Editor Hutchinson in the May Review.

MR. N. E. FRANCE—the Wisconsin State Inspector of Apiaries—has begun his work of foul brood investigation, and in a communication dated June 5, says:

"I find many Wisconsin bee-keepers who did not know their bees were diseased, and nearly every case is where they do not take a bee-paper."

That surely speaks well for the work the bee-papers are doing. We have no doubt other foul brood inspectors find the same condition of things. The wise, up-to-date, and progressive and successful bee-keeper will always be found with a good bee-paper in the house—and will read it, too.

MR. J. T. CALVERT, of The A. I. Root Co., writing us June 9, had this to say about the honey crop prospects:

"Mr. A. I. Root has just returned from a trip to Belmont Co., Ohio, and says he never saw white clover any thicker, but lots of honey is going to waste, as bee-keepers have had so many poor seasons they are discouraged and not prepared for it. Those who take advantage of present conditions will get a good crop, and I anticipate a bigger season next year than this, if this season winds up as favorably as it has opened. The conditions all over the country seem to be very promising, judging from reports and orders that come in."

MR. GUS DITTMER—a successful Wisconsin bee-supply dealer and comb foundation maker, and one of our regular advertisers—wrote us as follows June 7:

"I have had such a rush this spring that something had to be done to meet the June trade. I have succeeded in raising about two tons of beeswax, and now keep two machines going. And I think that I can weather it. I sold as much up to May 1 as all of last year, and now buy sections by the carload."

We are glad to see those prosper who advertise in the Bee Journal. It shows that it pays to patronize our advertising columns, if real help is desired in building up a paying business.

Now is the Time to work for new subscribers. Why not take advantage of the offers made on page 382?

Question-Box.

In the multitude of counsellors there is safety.—Prov. 11-14.

Best Style and Size of Sections.

Query 53.—What style and size of sections [please give exact dimensions] do you prefer to use for comb honey?—Q.

E. France— $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{2}$.

Chas. Dadant & Son— $4\frac{1}{4} \times 1\frac{1}{2}$.

Jas. A. Stone— $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{2}$ inches.

R. L. Taylor— $4\frac{1}{4} \times 4\frac{1}{4}$, 7 to the foot.

Prof. A. J. Cook—The standard $4\frac{1}{4} \times 4\frac{1}{4}$.

P. H. Elwood—4-piece dovetail, $4 \times 4\frac{1}{4} \times 1\frac{1}{2}$.

G. M. Doolittle— $3\frac{1}{2} \times 5\frac{3}{8} \times 1\frac{1}{2}$, outside measure.

Emerson T. Abbott— $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{2}$, open all around.

J. M. Hambaugh—I prefer the regular $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{2}$.

Mrs. L. Harrison— $4\frac{1}{4} \times 4\frac{1}{4}$. They hold usually an exact pound.

J. A. Green—One-piece, open top and bottom, $4\frac{1}{4} \times 4\frac{1}{4}$, 7 to the foot.

A. F. Brown— $3\frac{1}{2} \times 5 \times 1\frac{1}{2}$ inches, bottom and top opened full width from side to side.

Dr. A. B. Mason— $4\frac{1}{4} \times 4\frac{1}{4}$ four-piece, but they are more expensive in more ways than one.

H. D. Cutting—It all depends upon what you do with your honey; $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{2}$ is a good size.

C. H. Dibbern—I use the whitewood 4-piece dovetail section, size $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{2}$, outside measure.

W. G. Larrabee—Four-piece, $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{2}$, with top and bottom same width the whole length.

Rev. M. Mahin—I use sections $5 \times 6 \times 1\frac{1}{2}$. But I am not sure but that if I used another style of hive I would prefer $4\frac{1}{4} \times 4\frac{1}{4} \times 2$.

G. W. Demaree—Simply $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{2}$. I would prefer a little larger section if they were as handy to "tier up," but they are not.

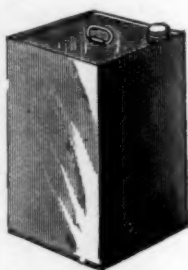
Dr. J. P. H. Brown—I use mostly sections $4\frac{1}{4} \times 4\frac{1}{4}$; but I can get more honey from oblong sections—bee-entrance from the longest side.

Dr. C. C. Miller—I don't know. At present I'm using $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{2}$, but I'm ready to change if there seems sufficient inducement. Possibly $1\frac{1}{4}$ might be better than $1\frac{1}{2}$.

Eugene Secor—I use nothing but $4\frac{1}{4} \times 4\frac{1}{4}$. I prefer a 4-piece whitewood section to anything I ever used. Width to correspond with style of super; separators always for fine product.

J. E. Pond— $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{2}$. I use the Simplicity-Langstroth hive, and these sections just fit into the hive. I do not think the style makes much difference, but I should want the sections to hold about 14 to 16 ounces of honey.

Please Send Us the Names of your neighbors who keep bees, and we will send them sample copies of the BEE JOURNAL. Then please call upon them and get them to subscribe with you, and secure some of the premiums we offer.



Finest Alfalfa Honey!

IT SELLS ON TASTING.

The Honey that Suits All Who Buy It.

Low Prices Now!

We can furnish **White Alfalfa** Extracted Honey, in 60-pound tin cans, on board cars in Chicago, at these prices: 1 can, in a case, $7\frac{1}{2}$ cents per pound; 2 cans in one case, 7 cents; 4 cans (2 cases) or more, $6\frac{1}{2}$ cents. The Cash must accompany each order. **Fine Basswood** Flavor Honey at same price; also in 270-lb. barrels.

A sample of either honey will be mailed to an intending purchaser, for 8 cents, to cover postage, packing, etc. We guarantee purity.

GEORGE W. YORK & CO., 118 Michigan Street, CHICAGO, ILL.

Page & Lyon Mfg. Co. New London, Wisconsin.

Operates two sawmills that cut, annually, eight million feet of lumber, thus securing the best lumber at the lowest price for the manufacture of

Bee-Keepers' Supplies.

They have also one **One of the Largest Factories** and the latest and most-improved machinery for the manufacture of

Bee-Hives, Sections, Etc.,

that there is in the State. The material is cut from patterns, by machinery, and is absolutely accurate. For Sections, the **clearest and whitest Basswood** is used, and they are polished on both sides. Nearness to Pine and Basswood forests, and possession of mills and factory equip with best machinery, all combine to enable this firm to furnish the

Best Goods at the Lowest Prices.

Send for Circular and see the Prices on a Full Line of Supplies.

Please mention the American Bee Journal.

7Atf

BEE-KEEPERS

We make

The Very Finest Line of in the Market, and sell them at Low Prices.

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Send for Free Illustrated Catalog and Price-List.

G. B. LEWIS CO., WATERTOWN, WIS.

Special Agent for the Southwest—E. T. ABBOTT,

St. Joseph, Mo.

Mr. Abbott sells our Hives and Sections at Factory Prices.

That Queen-Clipping Device Free!

Works Like a Charm.

The Monette Queen-Clipping Device WORKS LIKE A CHARM. With it I have clipped 30 queens, all in one day, when examining my bees. WM. STOLLEY, Grand Island, Nebr.

Couldn't Do Without It.

I have clipped 19 queens, and must say the Monette Queen-Clipping Device is by far the best invention ever made, and will be welcome to many bee-keepers as it was to me. I could not do without one now.

DR. GEO. LACKE, Newburgh, Ind.

PLEASE READ THIS OFFER TO PRESENT SUBSCRIBERS:

Send us just one new name for the American Bee Journal a year (with \$1.00), and we will mail you the Queen-Clipping Device FREE of charge. Or, the Queen-Clipping Device will be sent postpaid for 30 cts. But why not get it as a Premium by the above offer? You can't earn 30 cts. any easier. Almost every bee-keeper will want this Device.

GEORGE W. YORK & CO., 118 Michigan St., CHICAGO, ILL.

BEE-BOOKS

SENT POSTPAID BY

George W. York & Co.,
Chicago, Ills.

Bees and Honey, or Management of an Apiary for Pleanre and Profit, by Thomas G. Newman.—This edition has been largely re-written, thoroughly revised, and is "fully up with the times" in all the improvements and inventions in this rapidly-developing pursuit, and presents the apiarist with everything that can aid in the successful management of an apiary, and at the same time produce the most honey in an attractive condition. It contains 250 pages, and 245 illustrations—is beautifully printed in the highest style of the art, and bound in cloth, gold-lettered. Price, \$1.00.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture, has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 530 pages; bound in cloth. Price, \$1.00.

Price, postpaid, \$1.25.

Bee-Keepers' Guide, or Manual of the Apiary, by Prof. A. J. Cook, of the Michigan Agricultural College.—This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroughly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 400 pages; bound in cloth and fully illustrated.

Price, postpaid, \$1.25.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of Queen-Bees are reared in perfect accord with Nature's way. 175 pages, bound in cloth, and illustrated. Price, \$1.00.

A B C of Bee-Culture, by A. I. Root.—A cyclopedia of 400 pages, describing everything pertaining to the care of the honey-bees. It contains 300 engravings. It was written especially for beginners. Bound in cloth. Price, \$1.25.

Advanced Bee-Culture, Its Methods and Management, by W. Z. Hutchinson.—The author of this work is too well known to need further description of his book. He is a practical and entertaining writer. You should read his book. 90 pages, bound in paper, and illustrated. Price, 50 cts.

Rational Bee-Keeping, by Dr. John Dzierzon.—This is a translation of his latest German book on bee-culture. It has 350 pages; bound in paper covers, \$1.00.

Bienen-Kultur, by Thomas G. Newman.—This is a German translation of the principles portion of the book called **BEES OF HONEY**. 102 page pamphlet. Price, 40 cents.

Convention Hand-Book, for Bee-Keepers.—Thomas G. Newman.—It contains the parliamentary law and rules of order for Bee-Conventions—also Constitution and By-Laws, with subjects for discussion, etc. Cloth, gold-lettered. Price, 25 cts.

Thirty Years Among the Bees, by Henry Alley.—Gives the results of over a quarter-century's experience in rearing queen-bees. Very latest work of the kind. Nearly 100 pages. Price, 50c.

Why Eat Honey?—This Leaflet is intended for FREE distribution, to create a Local Market. 100 copies, by mail, 30 cts.; 500 for \$1.25; 1000, \$2.00.

How to Keep Honey and preserve its richness and flavor. Price same as Why Eat Honey.

Alsike Clover Leaflet.—Full directions for growing. 50 for 25 cts.; 100 for 40 cts.; 200, 70c.

Apiary Register, by Thos. G. Newman.—Devotes two pages to a colony. Leather binding. Price, for 50 colonies, \$1.00; for 100 colonies, \$1.25.

Preparation of Honey for the Market, including the production and care of comb and extracted honey. A chapter from **BEES AND HONEY**. Price, 10 cents.

Bee-Pasturage a Necessity.—This book suggests what and how to plan. It is a chapter from **BEES AND HONEY**. Price, 10 cents.

The Hive I Use, by G. M. Doolittle. It details his management of bees, and methods of producing comb honey. Price, 5 cents.

Dr. Howard's Book on Foul Brood.—Gives the McEvoy Treatment and reviews the experiments of others. Price, 25 cts.

Dictionary of Apiculture, by Prof. John Phil. Gives the correct meaning of nearly 500 apicultural terms. Price, 50 cts.

Winter Problem in Bee-Keeping, by G. R. Pierce. Result of 25 years' experience. 50 cts.

Handling Bees, by Chas. Dadant & Son.—A Chapter from Langstroth Revised. Price, 8 cts.

History of Bee-Associations, and Brief Reports of the first 20 conventions. Price 15 cts.

Foul Brood Treatment, by Prof. F. R. Cheshire.—Its Cause and Prevention. Price, 10 cts.

Foul Brood, by A. R. Kohnke.—Origin, Development and Cure. Price, 25 cts.

Honey as Food and Medicine, by T. G. Newman.—A 32-page pamphlet, just the thing to create a demand for honey at home. Should be scattered freely. Contains recipes for Honey-Cakes, Cookies, Puddings, Foam, Wines, and uses of honey for medicine.

Prices, prepaid—Single copy, 5 cts.; 10 copies, 35 cts.; 50 for \$1.50; 100 for \$2.50; 250 for \$5.50; 500 for \$10.00; or 1000 for \$15.00.

When 250 or more are ordered, we will print the bee-keeper's card (free of cost) on the front cover page.

Practical Hints to Bee-Keepers—by CHAS. F. MUTH. Also contains a Foul Brood Cure and How to Winter Bees. 40 p.; 10 cts.

Bee-Keeping for Profit, by Dr. G. L. Tinker.—Revised and enlarged. It details the author's "new system, or how to get the largest yields of comb or extracted honey." 80 p.; illustrated. 25c.

Emerson Binders, made especially for the BEE JOURNAL, are convenient for preserving each number as fast as received. Not available to Canada. Price, 75 cts.

Commercial Calculator, by C. Ropp.—A ready Calculator, Business Arithmetic and Account-Book combined in one. Every farmer and business man should have it. No. 1, bound in water proof leatherette, calf finish. Price, 40 cts. No. 2, in fine artificial leather, with pocket, silicate slate, and account-book. Price, 60 cts.

Green's Four Books, by Chas. A. Green.—Devoted to, 1st, How We Made the Old Farm Pay; 2nd, Peach Culture; 3rd, How to Propagate Fruit-Plants, Vines and Trees; 4th, General Fruit Instructor. Nearly 120 pages. Fully illustrated. 25 cts.

Garden and Orchard, by Chas. A. Green.—Gives full instructions in Thinning and Marketing Fruits; Pruning, Planting and Cultivating; Spraying, Evaporation, Cold Storage, Etc. 64 pages, illustrated. Price, 25 cts.

Kendall's Horse-Book.—35 pictures, showing positions of sick horses, and treats on all their diseases. English or German. Price, 25 cts.

Silo and Silage, by Prof. A. J. Cook.—It gives the method in operation at the Michigan Agricultural College. Price, 25 cts.

Lumber and Log-Book.—Gives measurements of lumber, logs, planks; wages, etc. 25c.

Maple Sugar and the Sugar Bush, by Prof. A. J. Cook.—Full instructions. Price, 35 cts.

Grain Tables, for casting up the price of grain, produce, hay, etc. Price, 25 cts.

Capons and Caponizing, by Dr. Sawyer, Fanny Field, and others.—Illustrated. All about caponizing fowls, and thus how to make the most money in poultry-raising. 64 pages. Price, 30 cts.

Our Poultry Doctor, or Health in the Poultry Yard and How to Cure Sick Fowls, by Fanny Field.—Everything about Poultry Diseases and their Cure. 64 pages. Price, 30 cts.

Poultry for Market and Poultry for Profit, by Fanny Field.—Tells everything about the Poultry Business. 64 pages. Price, 25 cts.

Turkeys for Market and Turkeys for Profit, by Fanny Field.—All about Turkey-Raising. 64 pages. Price, 25 cts.

Rural Life.—Bees, Poultry, Fruits, Vegetables, and Household Matters. 100 pages. 25 cts.

Potato Culture, by T. B. Terry.—It tells how to grow them profitably. Price, 40 cts.

Hand-Book of Health, by Dr. Foote.—Hints about eating, drinking, etc. Price, 25 cts.

Bee-Keepers' Directory, by H. Alley.—Latest methods in Queen-Rearing, etc. Price, 50c.

Book Clubbing Offers.

(Read Carefully.)

The following clubbing prices include the American Bee Journal one year with each book named. Remember, that only ONE book can be taken in each case with the Bee Journal a year at the prices named. If more books are wanted, see postpaid prices given with the description of the books on this page. Following is the clubbing-list:

1. Langstroth on the Honey-Bee.....\$2.00
2. A B C of Bee-Culture.....2.00
3. Bee-Keeper's Guide.....1.75
4. Bees and Honey [Cloth bound].....1.65
5. Doolittle's Scientific Queen-Rearing.....1.75
6. Dr. Howard's Foul Brood Book.....1.10
7. Advanced Bee-Culture.....1.30
8. Bienen-Kultur [German].....1.20
11. Rational Bee-Keeping [Paper bound] 1.75

12. Thirty Years Among the Bees.....1.30
13. Bee-Keeping for Profit.....1.15
14. Convention Hand-Book.....1.15
15. Poultry for Market and Profit.....1.10
16. Turkeys for Market and Profit.....1.10
17. Capons and Caponizing.....1.10
18. Our Poultry Doctor.....1.10
19. Green's Four Books.....1.15
21. Garden and Orchard.....1.15
23. Rural Life.....1.10
24. Emerson Binder for the Bee Journal.....1.60
25. Commercial Calculator, No. 1.....1.25
26. Commercial Calculator, No. 2.....1.40
27. Kendall's Horse-Book.....1.10
30. Potato Culture.....1.20
32. Hand-Book of Health.....1.10
33. Dictionary of Apiculture.....1.35
34. Maple Sugar and the Sugar Bush.....1.20
35. Silo and Silage.....1.10
36. Winter Problem in Bee-Keeping.....1.30
37. Apiary Register (for 50 colonies).....1.75
38. Apiary Register (for 100 colonies).....2.00
39. Bee-Keepers' Directory.....1.30

General Items.

Good Honey-Flow.

We are having a good honey-flow in this part of the country, so far. White clover is fine. J. L. ODEN.

Rutherford Co., Tenn., June 1.

Bee-Outlook this Year.

I have 27 colonies at present. The queens are active, and they have built up well. They have been storing nectar from poplar most of this month, and the last two weeks from white clover. I will have to extract next week.

W. W. MOUNT.

Marshall Co., Tenn., May 26.

Hope Blasted.

The spring has proved so unpropitious, and losses so heavy through this section, that many bee-keepers are quite discouraged. The caterpillars are destroying the foliage on the basswood and many other forest trees, and our hope of a large crop of honey is blasted.

JAS. L. GRAY.

Stearns Co., Minn., June 2.

Clipping Queens—Hiving Swarms.

About three weeks ago I clipped one wing of each of my queens, using the Monette queen-clipping device, and it worked fine. I would not keep even a few bees without it. But I was reminded of the old lady's recipe for making rabbit pot-pie. She commenced by saying, "First get your rabbit." But after finding my queen, the rest almost did itself, and I could find them much quicker after a little practice than at first.

About a week after I had my first experience in hiving a swarm with a clipped queen. They came out and clustered just as I came home at noon, and I soon had the queen in the "device" (which, by the way, is just the thing to pick them up with), and by the time I had the old hive on its new stand, and a new one in its place, with full foundation and one frame of brood from the old hive, they broke cluster and came back. I let the queen out, and saw her go in and the bees poured in after her, and all was lovely.

My next experience was with two swarms, that had just clustered together as I came home at noon.

I was expecting swarms from Nos. 1, 7 and 8; I caught my queen in front of No. 7, and without thinking of there

WOVEN WIRE FENCE



Best on Earth. Horse-high, Bull-strong, Pig and Chicken-tight. With our DUPLEX AUTOMATIC Machine you can make 60 rods a day for **12 to 20 cts. a Rod.** Over 50 styles. Catalogue Free. **KITSELMAN BROS.,** Box 138, Ridgeville, Ind.

48Etf Mention the American Bee Journal.

QUEENS!

Golden Italian, 3 Banded, Carniolan and Imported. Barred Plymouth Rock eggs. All at living prices. Catalog free.

J. F. Michael, Greenville, Ohio.

14Etf Please mention the Bee Journal.

Steel Wheels



Staggered Oval Spokes.
BUY A SET TO FIT YOUR NEW OR OLD WAGON
CHEAPEST AND BEST
way to get a low wagon. Any size wheel, any width tire. Catal. FREE.
ELECTRIC WHEEL CO., Quincy, Ill.

20E13 Mention the American Bee Journal.

Honey - Clovers!

We have made arrangements so that we can furnish seed of several of the Clovers by freight or express, at the following prices, cash with order:

	5lb	10lb	25lb	50lb
Alsike Clover.....	.70	\$1.25	\$3.00	\$5.75
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being two swarms together, lookt no farther, but placed my new hive there as before, but when they broke cluster they came back to No. 1 and commenced bunching in the grass in front. I let the queen go into hive No. 7, and placed a trap in front, and stirred them up at No. 1 in the grass, and caged that queen, and hung her cage upon a limb, and they clustered around her. I placed the two hives close together, with foundation and a brood-frame in each. I then shook the bees in front of both, let the No. 1 queen out, and I saw her go in, and the bees followed with a rush.

I noticed that many bees crost over from in front of No. 1 to No. 7, and vice versa, and now I am wondering if each swarm found their own queen. We are having very cold, rainy, backward weather of late, and bees are not doing much, neither is corn, and corn is king here. But we are living in hopes of better days.

H. W. CONGDON.

Cass Co., Nebr., May 31.

Backward Season.

The season is very backward. Bees are beginning to swarm some. There is plenty of clover, and a few days of warm sunshine will improve things greatly.

J. M. YOUNG.

Cass Co., Nebr., June 5.

A Swarming Record.

My bees are having lots of fun with me this year. I aimed to be ready for swarming about this time, and was congratulating myself that they would not get a chance to push me this year, but 11 swarms is the record up to date, and not half of the 16 colonies (spring count) have swarmed yet; they commenced April 30. White clover is now in bloom; fruit-bloom was destroyed by rains.

B. F. ONDERDONK.

Passaic Co., N. J., May 29.

Swarming—Bee-Spaces.

A great deal has been said in the Bee Journal about the swarming fever, how to prevent swarming, non-swarming bees, breeding out the swarming habit, etc. Now I don't want to be enlightened on the subject of breeding out the swarming habit, for I am afraid that would reduce the number of bees to a O. But what I would like to learn is, how to prevent that big young colony they have built up by depleting the old, or mother colony, from swarming. It is all very plain, that if the old colony is so depleted and weakened that she can't, she won't cast a second swarm. So if you bleed your horse until he is very weak, there is no danger of his jumping the fence.

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A word about bee-spaces, as that has just been a subject of discussion. One thing that I have not noticed in the "Old Reliable" is, the fact that bees



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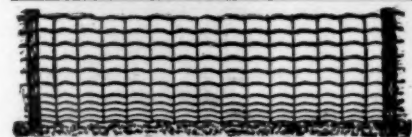
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will keep open every crack, hole or space in the hive large enough for a bee to pass through, no matter whether it is in the front, side or back of the hive, and will glue up every crevice about the hive not large enough to pass through. The same rule applies generally to the inside of the hive, so if the sections rest flat on slats, or anything else, the bees will glue up tight all around the sections and keep open a bee-space in the lower part of the sections. I have had full supers, where the sections rest on slats, that not one of the combs was in any way fastened to the bottom of the sections—a thing that has seldom occurred where there was a space between the top of the brood-frames and the sections. It seems they will have traveling-room either under the sections or through the sections from one to another.

Bees are a small people, but they know how to protect themselves against ants and other small insects, by stopping up every crevice with bitter glue, that nothing wants to eat into. They seem to think that wherever there is space enough for them to go through they can take care of their enemies, and where they can't go through they close it up tight.
H. P. WILLSON.

Pembina Co. N. D., May 31.

Expects a Crop this Year.

Bees did well last winter, and came out strong this spring, both in bees and honey. I had 22 colonies, lost one, fine Italian with an old queen. I have had 7 swarms to date, all in good shape. White clover is in bloom. I have acres of sweet clover from one to four feet high, and the public highways are full for miles around. You see I am going to have some honey this year, or quit the business. Last year I took off about 300 pounds. It was a poor location. I changed locations this spring, where I have plenty of pasture till frost closes the season.
JAS. W. WILLIAMS.

St. Clair Co., Mo., May 29.

Poor Outlook for a Honey Crop.

Bees have had a hard time for the past 10 days—too cold and windy, and a heavy frost on June 1 did immense damage to fruit and vegetation. Linden buds are about all killed on the few trees that had any—five out of six did not have buds at all. Corn and potatoes are frozen to the ground; wild and tame fruit are badly damaged; bees have to be fed, as they are at the starving point. There is no prospect for anything the next two weeks. The outlook for a honey crop is poor.
C. THEILMANN.

Wabasha Co., Minn., June 3.

Big Crop Expected.

Southern Indiana never before was covered with such a carpet of white clover as this season; but cool weather has delayed the flow of nectar enough to prohibit the bees from working in the sections. All bee-keepers report their bees in good condition for honey-gathering, and with warm and favorable weather Vanderburgh county will produce, from present indications, 80 to 100 tons of white clover honey, say nothing of our fall crop from dry-weather honey-vine and fall flowers, as we number about 3,000 colonies. In the very midst of the swarming season I

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E. L. CARRINGTON,

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had the misfortune to run a large rusty spike through my foot, which almost laid me out. However, my wife attended to all apiary work, hiving 25 swarms. The ranks of bee-keepers are rapidly swelling, many amateurs engaging in the pursuit. J. C. WALLENMEYER.

Vanderburgh Co., Ind., June 9.

Prospect Not Very Good.

The prospect in this vicinity is not very good; 20 to 30 pounds to the colony is about the average for extracted honey up to date.

G. M. WASHBURN.
Riverside Co., Calif., May 30.

Condition of Bees Poor.

Bees are in poor condition, on account of cold, and the winter loss was heavy, as the honey-flow gave out in July, and most of the bees were short of stores.

C. F. LANG.
La Crosse Co., Wis., June 4.

Bees Doing But Little.

I wintered 115 colonies in single-walled hives on the summer stands without any loss. They are swarming some. Nearly all have commenced work in the sections. There are hundreds of acres of white clover here, but on account of the raw, cold and cloudy weather the bees are doing but little.

J. E. WALKER.
Pike Co., Mo., June 7.

Surplus Crop Looks Doubtful.

Bees wintered well—no loss—and built up early and strong. They commenced swarming May 17. There is plenty of white clover bloom, but the weather for the past two weeks has been so cold and cloudy that but very little surplus has yet been secured. Therefore, our anticipated crop of surplus looks quite doubtful at present.

CHESTER BELDING.
Orange Co., N. Y., June 9.

Right Weather for Nectar-Secretion.

Bees are booming. We have an abundance of white clover, also honey-dew is very plentiful. The sultry weather we are having seems to be just right for the secretion of nectar. By the way, we left a pint bee-feeder on one of our colonies, and failed to put a super on. So the bees took advantage of the feeder, and filled it with extracted honey(?). We think we shall increase this strain of bees in the future!

JOHN NEBEL & SON.
Montgomery Co., Mo., June 8.

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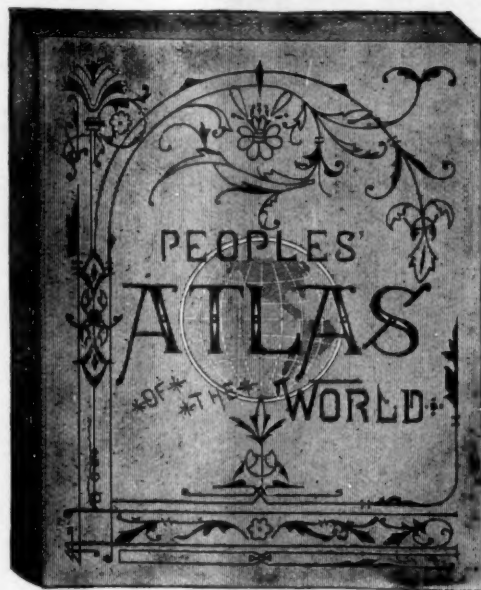
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MARKET QUOTATIONS.

Chicago, Ill., May 6.—There is very little honey coming to the market, and fine lots of white comb brings 13c. Yet only a little is taken by the dealers, the season for it being over with the coming of strawberries, which are now plentiful. Extracted brings about late quotations, with beeswax in active demand at 27@28c. for best grades.

San Francisco, Calif., May 6.—White comb, 9-10c.; amber, 5-7c. Extracted, white, 5½c.; light amber, 3½-4c.; dark tulle, 2½c. Beeswax, fair to choice, 25-27c.

New York, N. Y., May 20.—Old crop is well cleaned up, both comb and extracted, and our market is in good shape for new crop, which is now beginning to arrive from the South. It is in fairly good demand at 50@52c. per gallon for average common grade, and 55@60c. for better grades. Beeswax is rather quiet at 26@27c.

Detroit, Mich., May 1.—Fancy white comb, 11@12c.; No. 1, 10@11c.; fancy amber, 9@10c.; No. 1, 8@9c.; dark, 7@8c. Extracted, white, 5@6c.; amber, 4@5c.; dark, 4c. Beeswax, 25@26c. Demand is slow for honey, and plenty in commission house.

Kansas City, Mo., May 20.—Fancy white, 12@13c.; No. 1, 11@12c.; fancy amber, 10@11c.; No. 1, 9@10c.; fancy dark, 8@9c.; No. 1, 8c. Extracted, white, 5@5½c.; amber, 4½@5c.; dark, 3½@4c. Beeswax, 25c.

Cincinnati, Ohio, May 7.—Demand is slow for all kinds of honey. Comb honey, 9@14c. for fair to choice white; extracted, 3½@6c. There is a fair demand for beeswax at 22@25c. for good to choice yellow.

Minneapolis, Minn., May 1.—Fancy white, 11@12c.; No. 1 white, 10@11c.; fancy amber, 9@10c.; No. 1 amber, 8@9c.; fancy dark, 7@8c.; No. 1 dark, 6-7c. Extracted, white, 6@7c.; amber, 5@5½c.; dark, 4@5c. Utah white extracted, 5@5½c. Beeswax, 23@26c. Market fairly steady for comb and better for extracted than for some time.

Philadelphia, Pa., May 1.—Fancy white comb, 12-13c.; fancy amber, 8-9c.; No. 1, 8c.; fancy dark, 7-8c. Extracted, white, 5-7c.; amber, 4-5c.; dark, 3½-4c. Beeswax, 25c. Season is getting over for comb honey—very little demand. Extracted in good demand.

St. Louis, Mo., May 1.—Fancy comb, 12@13c.; No. 1 white, 11@11½c.; amber, 9@10½c.; dark, 7@8½c. Extracted, white, in cans, 6@7c.; amber, in barrels, 4@4½c.; extra, 5c.; dark, 3@4c. Good demand for barrel stock—comb slow sale. Beeswax, 23@23½c.—prime finds ready sale at 23½c.

Albany, N. Y., May 1.—Fancy white, 12-13c.; No. 1, 11-12c.; fancy amber, 9-10c.; No. 1, 8-9c.; fancy dark, 7-8c.; No. 1, 6-7c. Extracted, white, 5-6c.; dark, 3½-4c. Demand is all that could be expected at this season. Stock on hand small.

Indianapolis, Ind., May 1.—Fancy white, 14-15c.; No. 1 white, 12-13c. Extracted, white, 6-7c. Beeswax, 22-25c. Demand is fair for grades quoted, but no demand for inferior grades.

Buffalo, N. Y., May 28.—The honey season here is about wound up for the present. There are a few stray sales of fancy at 10 and 11 cents, while common is selling at any price, quotable at 9@10c. No extracted of consequence here.

Boston, Mass., May 1.—Fancy white, 13-14c.; No. 1, 11-12c. Extracted, white, 6-7c.; amber, 5-6c. Beeswax, 25c.

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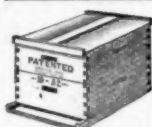
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